

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Withdrawn) A method for rotating a point array including a plurality of points for projection onto a subject, the points arranged in a plurality of columns and rows and projectable onto the subject along scan lines, the method comprising:

determining the number of rows in the array;

determining a first distance between two scan lines;

establishing a number of redundant points, the redundant points falling on a single scan line; and

calculating an angle using the number of rows and the number of redundant points such that the first distance is achieved when the point array is rotated to coincide with the angle.

2. (Withdrawn) The method of claim 1 further including rotating the point array to coincide with the angle.

3. (Withdrawn) The method of claim 1 wherein the first distance is equal for any two adjacent scan lines, so that the first distance is operable to define a resolution of the point array on the subject.

4. (Withdrawn) The method of claim 1 further including:

determining a second distance between two points of the array; and

calculating the angle using the number of rows, the number of redundant points, and the second distance.

5. (Withdrawn) The method of claim 1 wherein, if the plurality of points are uniformly spaced when projected on the subject, then the number of rows divided by the number of redundant points is an integer.

6. (Withdrawn) The method of claim 5 further including calculating the angle as arctangent of the number of redundant points divided by the number of rows.

7. (Currently Amended) A system for converting image data in real time, the system comprising:

a first memory operable to store the image data;

a processing device connectable to the first memory, the processing device operable to calculate an angle of rotation between a pixel panel and a subject based on a value K, wherein the value K defines a number of points of the pixel panel that fall onto a single scan line on the subject, and to manipulate the image data based on the angle of rotation;

a second memory accessible to the processing device, the second memory operable to buffer the manipulated data; and

the [[a]] pixel panel positioned in a first plane, the pixel panel operable to receive the buffered data and project the data upon a subject positioned in a second plane substantially parallel to the first plane, the pixel panel positioned at an angle relative to the subject equal to the angle of rotation.

8. (Original) The system of claim 7 wherein the processing device includes a plurality of instructions operable to calculate an address so that the image data is correctly displayed on the pixel panel.

9. (Original) The system of claim 7 further including a shift register, the shift register operable to receive the manipulated image data and shift the data into the second memory.

10. (Original) The system of claim 7 wherein the second memory is a frame buffer.

11. (Original) The system of claim 7 wherein the second memory is a line buffer.

12. (Currently Amended) The system of claim ~~44~~ 10 further including a selector, the selector operable to select a frame from the frame buffer for transfer to the pixel panel.

13. (Original) The system of claim 7 wherein the processing device is a digital signal processing device.

14. (Currently Amended) A method for converting image data in real time for projection onto a subject, the method comprising:

retrieving at least a portion of the image from a memory;

calculating an angle of rotation between a pixel panel and the subject based on a value K, wherein the value K defines a number of points of the pixel panel that fall onto a single scan line;

calculating at least one address for the image portion, the calculation operable to determine the position of the image portion on the pixel panel positioned in a first plane and rotated relative to the subject, the subject positioned in a second plane that is substantially parallel to the first plane;

transferring the image portion to a buffer; and

transferring the image portion from the buffer to the pixel panel.

15. (Original) The method of claim 14 further including:

determining a location of at least one frame in the image; and

identifying the frame as the image portion to be retrieved.

16. (Original) The method of claim 14 further including calculating the position of the image portion using an angle of rotation of the pixel panel.

17. (Original) The method of claim 14 further including moving a pointer to a next image portion, so that the next image portion can be retrieved.

18. (Original) The method of claim 14 wherein the image portion is a predetermined number of bits.

19. (Original) The method of claim 18 wherein the address is calculated for each of the predetermined number of bits.

20. (Original) The method of claim 14 further including:
transferring a plurality of image portions to the buffer; and
selecting one of the plurality of image portions to transfer to the pixel panel.

21. (New) A method for transferring image data in real time for projection by a pixel panel, the method comprising:
extracting a predefined amount of image data from a memory using a digital signal processor;
calculating an angle of rotation between the pixel panel and a subject based on a value K, wherein the value K defines a number of points of the pixel panel that fall onto a single scan line;
calculating a location for each of a plurality of image portions of the extracted image data on the pixel panel, wherein each location accounts for the angle of rotation;
loading each bit from each of the image portions into a corresponding one of a plurality of registers of a shift register, wherein the loading orders the bits based on the location calculated for each image portion;
transferring each of the image portions into a frame buffer; and
transferring each frame to the pixel panel, wherein the extracting, calculating, loading, and transferring occurs in real time in response to a demand for image data for the pixel panel.

22. (New) The method of claim 21 wherein loading each bit includes placing each bit from a single image portion into a separate register in a position corresponding to a position of each of the other bits from the single image portion in other registers.

23. (New) The method of claim 22 wherein transferring each of the image portions into a frame buffer includes shifting a corresponding bit of each register into a single frame.

24. (New) The method of claim 21 wherein loading each bit includes sequentially placing all bits from a single image portion into a single register.

25. (New) The method of claim 21 wherein K is greater than 1.